

**From:** [ANDERSON Jim M](#)  
**To:** [Eric Blischke/R10/USEPA/US@EPA](#); [Chip Humphrey/R10/USEPA/US@EPA](#)  
**Cc:** [MCCLINCY Matt](#); [GAINER Tom](#); [POULSEN Mike](#); [PETERSON Jenn L](#)  
**Subject:** LWG's Chemical F&TM Report  
**Date:** 08/31/2007 01:39 PM

---

Eric & Chip,

I reviewed the LWG's 7/07 "*Draft Chemical Fate & Transport Model Development & Data Gaps Identification Report*". I only have a rudimentary understanding of the F&T modeling process. I don't have any actual comments, but I do have a number of questions you should consider while compiling comments on this report & preparing for our upcoming discussions with the LWG on the Hybrid Model.

I understand 2 of the significant outstanding issues with the Hybrid Model are: 1) the HST Model "piecewise event" approach didn't work, & 2) uncertainty in the AFT Model prevents the Hybrid Model from accurately predicting water, sediment, &/or tissue concentrations.

HST Model "Piecewise Event" Approach- I understand the LWG will use a low-, medium, & high-flow 5-year moving flow average from the LWR for their simulation of extreme river flow events..., & that this new approach will be run & submitted to EPA in fall 2007. Does EPA approve of this new approach? Will this new approach have a better chance of success? What happens if this new approach fails?

Uncertainty in the AFT Model- The report says the HST Model simulates the movement of sediment & water thru the system, & fluxes from the HST Model are input AFT Model, which then estimates a chemical mass associated with both sediment- & water-phase processes. These chemical masses are then converted to concentrations present in sediment & water, which are then used by the FWM to simulate uptake of these chemicals from sediment & water into the food chain & modeled organisms. The report concludes that uncertainty in the AFT Model prevents the Hybrid Model from accurately predicting water, sediment, &/or tissue concentrations.

The LWG concludes that it's worthwhile to conduct limited research & data collection for some of the key AFT Model parameters that have a reasonable chance to reduce model uncertainty. What happens if, after additional work, the AFT Model still contributes enough overall uncertainty to prevent the Hybrid Model from making accurate predictions? We talked about these models as being "evolving"..., where we modify & improve them based on previous runs & additional work. Is this where we are, or are there fatal flaws? If there are fatal flaws, where are we on F&T Model?

James M. Anderson  
Manager, Portland Harbor Section  
DEQ NWR  
Phone (503) 229-6825  
Cell (971) 563-1434  
Fax (503) 229-6899